

Solve each problem using the Counting Principle or Permutations. Show your work!

1) James ate at the Taco Hut, where he could choose a main entrée, a side, and a beverage. For his main entrée, he could choose from Tacos, Burritos, and Enchiladas. He could pick one side from either rice or beans. For his beverage, James is only allowed to drink milk or water (his parents are really strict). How many menu choices could James choose from?

2) Richard, Noah, Jennifer and Sarah ran in a race. In how many different orders could they finish the race?

3) In how many different ways can Nicole, Nick, Taylor, Julia, Grace, Jon and Ryan stand in a line for a photo?

4) Suzy had 4 shirts, 6 pairs of pants, and 3 pairs of shoes. How many outfits could she put together with these clothing items?

5) How many ways could a president and vice-president be selected from a class of 27 students?

6) How many different ways can you arrange the letters in the word SCRAMBLE?

7) Valerie's art teacher assigned a project in which students had to use exactly 3 colors from the following choices: red, yellow, blue, purple, green and orange. How many ways can Valerie use exactly three colors from the choices?